

Umbilical Cord Care Knowledge and Practice among Sample of Kurdish Women

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Abstract:

Background: The mother's awareness and practices regarding cord care are crucial to the survival of the newborn. It's because infections after birth most commonly enter through the cord stump. Practices for clean cord care aid in the prevention of infections, which lowers infant morbidity and mortality.

Objective: The objective of this study was to investigate the knowledge and practices regarding newborn umbilical cord care among Kurdish mothers.

Method: A descriptive study was carried out on 202 mothers at mala Fandi primary healthcare centre during middle year of 2023. data were collected through face-to-face questionnaire interviews. It consists of socio-demographic characteristics, the

knowledge, and practices about cord care. Data were analysed by using Statistical Package for Social Sciences software version 23.0. Both descriptive and inferential analyses were done.

Results: Out of 202 mothers (70.2%) of the mothers have a good knowledge about cord care and majority of the mothers (89.1%) have cleaned the umbilical cord stump of the baby and (40.6%) using the techniques named clean cord base and surrounding skin at the same time. Most of the mothers do not use any traditional substance (79.2%) while most of the learned about umbilical cord care by their parents (50%). age, Occupation, Level of education, type of family and residential area were influential factors with knowledge regarding cord care.

Conclusion: most of mothers had good knowledge and proper practice about cord care. Also, majority of mothers got information from parents and relatives.

Keywords; Umbilical Cord Care, Knowledge, Practice, Women

Introduction

Globally, over 130 million babies are delivered each year; 4 million die within the first four weeks of life, with umbilical cord infection accounting for 25% of these deaths. Because two-thirds of births occur at home, most newborn cord care is provided at home in underdeveloped nations [1].

The umbilical cord is a common route of entry for systemic infection in the newborn infant, keeping the cord clean is therefore imperative if infection is to be prevented. Neonates died in the first month of life from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth [2].

Care provided by the mothers to their newborn depends on knowledge and practice of the mothers regarding newborn care and determines the newborn's health status [3]. The mother should be aware of danger signs of umbilical cord infection including pus discharge, reddening around umbilical stump and/or the surrounding skin and other signs of infection including fever, lethargy and difficulty in breathing [4].

In many cultures, some substances are applied to the cord stump and are associated with high risk of infection [5]; as ashes, oil, butter, spice pastes, herbs and mud [6]. These substances are often contaminated with bacteria and bacterial spores that increase the frequency of complications like cord sepsis, septicemia, umbilical cord granuloma, excessive bleeding, Omphalitis and tetanus. These conditions contribute significantly to neonatal morbidity and mortality [7].

Practice is a habit that has been formed by an individual depending on the knowledge they have acquired which then becomes something a person becomes used to if otherwise changed.

Objectives of the Study

1. To assess sociodemographic characteristics of study sample
2. To assess mothers' knowledge and practice regarding cord care
3. To find out the association between socio-demographic variables and mother's knowledge and practice regarding cord care

Subjects and Methods

Design of the Study

The descriptive study was conducted on Mothers at Mala-Fandi Health Care Centre in Erbil city of Kurdistan region / Iraq. The study was conducted on a convenient sample on 202 mothers who visited Mala-Fandi Health Care Centre. The inclusion criteria were Kurdish Mothers who have visited Mala-Fandi Health Care Centre. They desire to the study.

Data Collection

The data were collected during the period of May 15, 2023–July 25, 2023 by using the questionnaire, which assesses mothers' knowledge and practice regarding cord care, which consisted of two parts. First part; in this part questions were designed to collect data about socio-demographic characteristics of mothers which included items such as age, occupation level of education, family type, and number of children. Second Part; was concerned with mothers knowledge and practice regarding cord care .

Questions were categorized as yes or not for answering about knowledge and practice regarding cord care. After designing of questions the researcher sent the study questionnaires to 10 experts from various specialties. Afterward, the researcher adjusted the questionnaires according to expert's comments.

Ethical consideration

The study was approved by the Scientific and Ethical Committee at Hawler Medical Technical Institute. Prior to data collection, official permissions were obtained which involved Mala Afandi Health Care Centre, Directorate of General Health Erbil city. In the commencing of the data collection information about aims and method of data collection were transferred to mothers and gave them time to decide to participate or not, afterword they signed the consent to participate in the study.

Data Analysis

Data were entered analyzed using a statistical package for the social sciences (version 23.0). Descriptive statistics were performed to the socio-demographic characteristics of the participating mothers. Chi-square test was used to test the relationship between mother's socio-demographic characteristics and

mothers knowledge and practice regarding cord care . P-value was considered significant when it was <0.05 and highly significant when it was equal to or <0.01 .

Results

Table 1: shows the descriptive statistics of Socio-demographic characteristics of mothers. Most of the mothers are aged between 21 and 30 (59.4%) followed by more than 30 years (22.8%) and less than 21 years (17.8%) respectively since the majority of them are worked as housewives (58.45). having basic education (48.5%) and living in Nuclear (65.3%).

Also, the result of this table shows, the majority of parity is Primipara (56.4%), followed by Multipara (40.6%), and Grandmultipara (3%) respectively whilst the age of most of the babies is between 1 to 12 days (61.4%) and delivered at a public hospital (48.5%) with NVD (50.5%)

Figure1: shows the descriptive statistics of Mother's Knowledge Regarding cord care of newborn Baby. The majority of the mothers (70.2%) have a good knowledge regarding cord care of newborn baby.

Table 2: shows the descriptive statistics of Mother's practice regarding cord care of newborn Baby. The majority of the mothers have cleaned the umbilical cord stump of the baby (89.1%) since most of them used water to clean it (40.6%).

Most of the mothers cleaned their baby's cord after bathing the baby (41.6%) using the techniques named clean cord base and surrounding skin at the same time (40.6%).

Most of the mothers cleaned their hands before and after cord care (50.5%) using Water and soap (55.4%).

The majority of the mothers do not use any traditional substance (79.2%) while most of the learned about umbilical cord care by their parents (50%).

Table 3: shows there were significant associations among age, Occupation, Level of education, type of family and residential area with overall knowledge regarding cord care. Mother who ages were between 21-30 years had high knowledge than other ages. Also, about occupation mothers who are working had more knowledge if compare with mothers were housewives. High knowledge was observed among mother who had high educational level. Knowledge of Women who living in extended family was better than nuclear family. Unfortunately, respondents who lived in rural area had higher knowledge urban and suburban respondents.

Moreover, there were no significant association between parity, place of delivery, type of delivery and overall knowledge regarding cord care.

Table 4: reveals that there is significant association between occupation of mothers with frequency cord cleaning and Washing hands before and after cord care. In which mother who are housewives applied more cord cleaning and hand washing before and after cord care.

But there is no significant association between occupation of mothers and cleaning of umbilical cord stump of baby.

Table 5: indicates that there is a significant association between place of delivery with Materials used for cleaning and washing hands before and after cord care. In which mother who delivered at private hospital used more Cotton wool with methylated spirit for cleaning cord and mostly performed hand washing before and after cord care. While there is no significant association between place of delivery and Cleaning of umbilical cord stump of baby.

Discussion

Our result showed that most of mother had good knowledge regarding cord care of newborn this result was similar to the result of Kyomugisha [8], (2017) in her study about Knowledge and Practices on Umbilical Cord Care Among Mothers Attending Young Child Clinic in Mutolere Hospital, Kisoro District who reported that majority of respondents had sufficient knowledge about cord care. Another study found same result by Lizinde and Suubi [9], (2023) they reported that the majority (83%) of the mothers in the study had sufficient knowledge about cord care.

Also, a study done entitled "Knowledge and Practices of Postnatal Mothers Towards Umbilical Cord Care of Newborns at Kagando Hospital Postnatal Ward, Kasese District" documented that some respondents had accurate knowledge regarding umbilical cord care [10].

Furthermore, Ndomondo et al [11], (2022) done a study in Morogoro, Tanzania, they found that 52.6% of mothers had adequate knowledge about cord care. In Tabora region/Tanzania another study done on cord care by Kalufya et al [12], (2022) they reported that more than half of young mothers 196 (62.2%) had adequate knowledge of cord care, and in Nigeria a study showed that 83.3% of mothers had awareness of umbilical cord care [13]. Also, a study found that more than half of the mothers were more aware about cord care [14].

Moreover, Ans et al [15], (2023) done a study in Pakistan, they showed contrast result with our study they found that the majority of the respondents in their study had poor understanding of umbilical cord care. Also, Chizoma et al [16], (2020) in Nigeria found against our result they reported that more than half of mothers who participated in the study had a poor level of knowledge toward cord care.

Regarding Practice on cord care of newborn Baby; our result revealed that majority of mothers (89.1%) cleaned umbilical cord stump of baby, 40.6% of mothers used Hot water and 35.6% Cotton wool with methylated spirit as Materials for cleaning cord. The highest percent did not apply anything after cleaning cord but few amount used Chlorhexidine. 41.6% of mothers cleaned the cord after bathing. About half percent washed their hands before and after cord care and fifty percent of mothers got information from parents and relatives.

The same result was found by Kalufya et al [12], (2022) about practice on umbilical cord care, 87.3% reported cleaning the umbilical cord but only 13.0% cleaned once daily as recommended. Less than half (48.9%) washed their hands with water and soap before and after cleaning of the umbilical cord, The overall practice score showed that only 66 (21%) had good cord care practice. 62.2% of respondents learned about it from their mother/mother-in-law.

Nutor et al [17], (2016) done a study in Ghana, they documented that most mothers used practice for cord care was methylated spirits (68%), a significant number of mothers used non-recommended practices including shea butter (18%), toothpaste (4%), oil (2%), water (2%) and 6% used nothing. Overall, 79% of the mothers received information from healthcare workers about practicing on cord care.

Ndomondo et al [11], (2022) reported that the majority (88.1%) of postnatal mothers did not apply any material to the cord stump while (11.9%) applied something to the cord stump. 33.3% of them were applying spirit. Almost 95.2% of them who participated in the study reported that they got information from a health facility.

Also, other study reported that 85% of the mothers cleaned the cord 3 times a day. 66% of the mothers involved in the study was taught about cord care by a health worker [9].

61.4% of mothers practiced good cord care and most (95.7%) mothers used methylated spirit to clean the cord [16]. Besides, Nwonwu et al [13], (2017) found in their study that 96.4% of the mothers practiced umbilical cord care, 75.7% used spirit while only 8.1% of them used the correct material (chlorhexidine). Also, the source of information was mainly from health workers (56.7%) and family members (32%). 55.5% of the respondents obtained information from relatives about cord care [10]

We found in our result Mother who ages were between 21-30 years, who are working and who have high educational level had high knowledge. Unfortunately, respondents who lived in rural area had higher knowledge urban and suburban respondents.

Moreover, there were no significant association between parity, place of delivery, type of delivery and overall knowledge regarding cord care.

We observed mother who are housewives applied more cord cleaning and hand washing before and after cord care. But there is no significant association between occupation of mothers and cleaning of umbilical cord stump of baby.

Our founding showed that mother who delivered at private hospital used more Cotton wool with methylated spirit for cleaning cord and mostly performed hand washing before and after cord care. While there is no significant association between place of delivery and Cleaning of umbilical cord stump of baby.

This is assumed because those with no formal education are less likely to be able to read, whereas those with a higher education level may be able to obtain information about cord care from different media. This is consistent with the result of Lizinde, Suubi [9], (2023) they clarified the mother level of education as a key factor in the level of knowledge and information concerning cords care, also, they observed significantly that mothers with a higher level of education were more informed about care for the cord.

Furthermore, Dessalegn et al [18]. (2021) in their study on Umbilical cord care practices and associated factors among mothers of neonates visiting Mizan-Tepi University teaching hospital southwest Ethiopia detected that mothers who graduated college were better cord care practices compared to the uneducated mothers.

Mothers who at least attended primary and secondary education were three times more likely to have adequate knowledge of cord care compared to those with no formal education [11].

Kalufya et al [12], (2022) they have shown that high knowledge was observed among mothers who had higher education level vs having no formal education.

This is because those who give birth in a healthcare institution get the opportunity to learn about cord care from health care experts during postnatal instruction.

Our study was more similar to the study done by Afolaranmi et al [14], 2018 that stated place of delivery has a significant impact on the quality of cord care given to the newborn with compared to home delivery.

However, the results were in contrast with Merga et al [19], (2022) they found that mothers who delivered from home had higher practicing cord care as compared to those who delivered at hospital.

All mothers in a study were delivered from the hospital, it was reported that they proper cord care was done at birth [9].

Mothers at Hospital delivery was found to significantly expect good practice of cord care than those who delivered outside hospital [14; 11].

Rationality for our result that mothers who live in outside of urban had more awareness than urban people, this is may be due to mothers who live in rural area may have more time to read, listen and watch TV program about cord care than who live in urban which is busier due to loading of work.

Dissimilar to our result was found by [14; 11], They discovered in their study that the participants with high knowledge score was significantly higher among mothers who lived in urban areas.

A study found that age, marital status, occupation, and parity of the mother were not significantly associated with knowledge about cord care [11].

Conclusion:

The study concluded that most of mothers had good knowledge and proper practice about cord care. Also, majority of mothers got information from parents and relatives. furthermore education level, residency, place of delivery were influential factors for getting high knowledge and better practising toward cord care, while others were not important factors regarding cord care.

Declarations**Acknowledgements**

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding authors on reasonable request.

Authors' contributions

HO contributed to the conception and design of the study. HS and MM contributed to data collection. KJ contributed to the data analysis, discussion of the result. SM contributed to review manuscript. All authors read and approved the final manuscript.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no conflicting interests related to this manuscript.

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Table (1) Descriptive Statistics about Socio-demographic characteristics of mothers:

Items	F	%	
1. Age	less than 21	36	17.8%
	21 – 30	120	59.4%
	31 and more	46	22.8%
	(Mean ± SD)	(26 ± 5.69)	
2. Occupation of mothers	Housewife	118	58.4%
	Employee	48	23.8%
	Worker	36	17.8%
3. Level of education	Basic	98	48.5%
	Illiterate	30	14.9%
	High School	22	10.9%
	Diploma	16	7.9%
	Bachelor's Degree	36	17.8%
4. Types of family	Nuclear	132	65.3%
	Extended	70	34.7%
5. Residence	Urban	126	62.4%
	Suburban	60	29.7%
	Rural	16	7.9%
6. Parity	Primipara	114	56.4%
	Multipara	82	40.6%
	Grand multipara	6	3.0%
7. Age of baby (months)	1 – 12	124	61.4%
	13 - 24 months	58	28.7%
	25 months and more	20	9.9%
	(Mean ± SD)	(12 ± 7.41)	
8. Place of delivery	Home	26	12.9%
	Public Hospital	98	48.5%
	Private Hospital	78	38.6%

9. Who conduct the delivery	Nurse/Midwife	108	53.5%
	Traditional birth attendants	18	8.9%
	Family Members	76	37.6%
10. Hospital delivery type	NVD	102	50.5%
	C/S	100	49.5%

Figure1 Mothers Knowledge Regarding cord care of newborn Baby

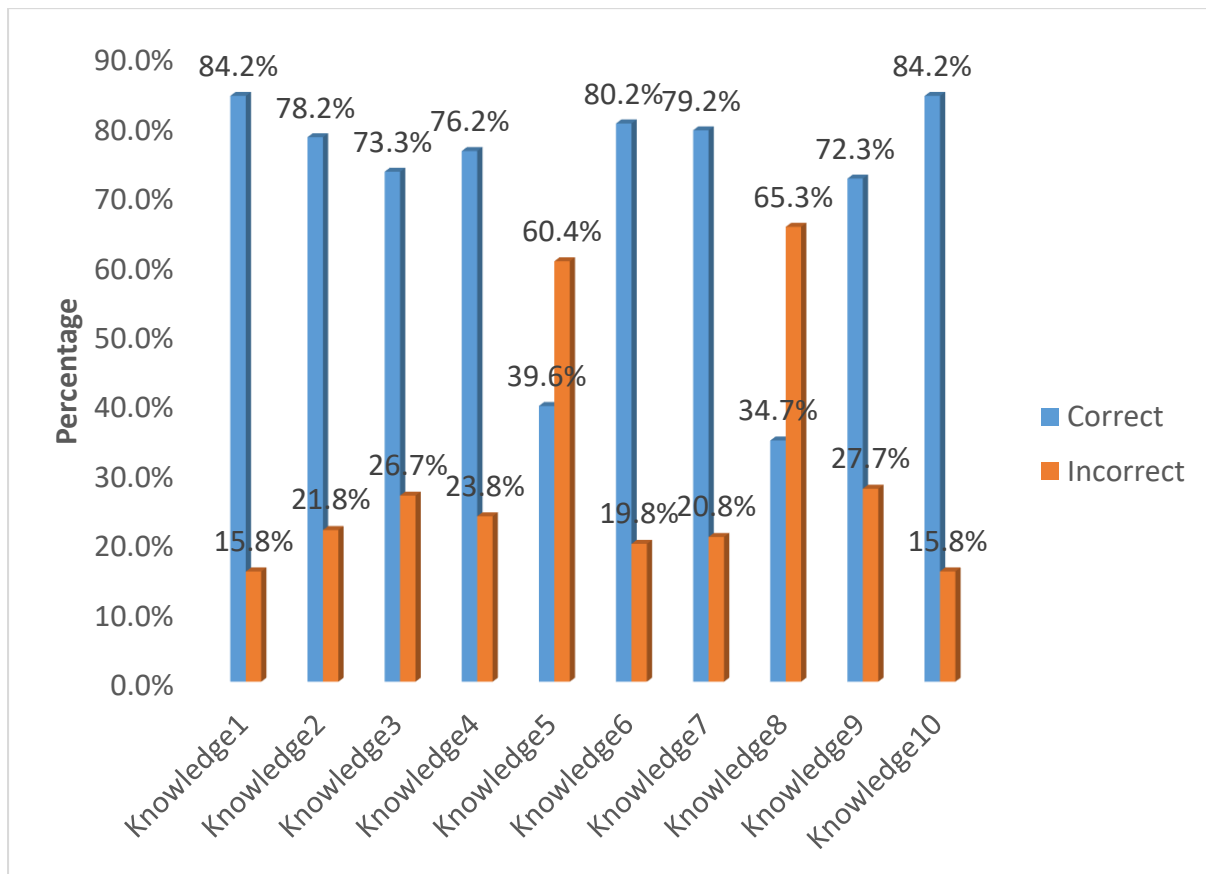


Table 2 Descriptive Statistics about Mothers Practice Regarding cord care of newborn Baby

	Items	F	%
1. Cleaning of umbilical cord stump of baby	Yes	180	89.1%
	No	22	10.9%
2. Materials used for cleaning	Hot water	82	40.6%
	Cotton wool with methylated spirit	72	35.6%
	Salt solution	16	7.9%
	Herbal preparation	16	7.9%
	Other	16	7.9%
3. Applying on the cord after cleaning	Nothing	110	54.5%
	Chlorhexidine	14	6.9%
	Toothpaste	6	3.0%
	Breast milk	28	13.9%
	Palm oil	22	10.9%
	Other	22	10.9%
4. Frequency cord cleaning	Once a day	58	28.7%
	Twice a day	36	17.8%
	After bathing the baby	84	41.6%
	After each dipper change	24	11.9%
5. Cord cleaning technique	Clean cord base and surrounding skin at the same time	82	40.6%
	Clean cord base before surrounding skin	44	21.8%
	Clean surrounding skin only	44	21.8%
	Clean cord stump only	22	10.9%
	Clean only material use in tying stump	10	5.0%
6. Clean your hands before and after cord care	Yes always	102	50.5%
	Yes sometimes	78	38.6%
	No, not at all	22	10.9%
7. If yes. How wash your hands	Water and soap	112	55.4%
	Water only	48	23.8%
	Clean hand on my wrapper	20	9.9%
	Clean with available reg	22	10.9%
8. Using any traditional substance	Yes	42	20.8%
	No	160	79.2%
9. Source of information	Nurse/midwife	22	15.7%
	Physician	8	5.7%
	Parents/relatives	70	50.0%
	Friends	8	5.7%
	Internet	18	12.9%
	Book	2	1.4%

	Media	12	8.6%
10. Thinking need other information for umbilical cord care	Yes	70	34.7%
	No	132	65.3%

Table3 Association between the overall of Knowledge Regarding cord care of newborn Baby and Socio demographic characteristics

Items		Overall Knowledge		Total	Chi-Square	P-value				
		Correct	Incorrect							
1. Age	Less than 21	F	22	14	36	10.559	0.005			
		%	61.1%	38.9%	100.0%					
	21 - 30	F	100	20	120					
		%	83.3%	16.7%	100.0%					
	31 and more	F	30	16	46					
		%	65.2%	34.8%	100.0%					
2. Occupation of mothers	Housewife	F	80	38	118	8.799	0.012			
		%	67.8%	32.2%	100.0%					
	Employee	F	40	8	48					
		%	83.3%	16.7%	100.0%					
	Worker	F	32	4	36					
		%	88.9%	11.1%	100.0%					
3. Level of education	Basic	F	78	20	98	19.812	0.001			
		%	79.6%	20.4%	100.0%					
	Illiterate	F	14	16	30					
		%	46.7%	53.3%	100.0%					
	High School	F	16	6	22					
		%	72.7%	27.3%	100.0%					
	Diploma	F	16	0	16					
		%	100.0%	0.0%	100.0%					
	Bachelor's Degree	F	28	8	36					
		%	77.8%	22.2%	100.0%					
	4. Types of family	Nuclear	F	92	40			132	6.601	0.008
			%	69.7%	30.3%			100.0%		
Extended		F	60	10	70					
		%	85.7%	14.3%	100.0%					
5. Residency		Urban	F	102	24	126	10.988	0.004		
			%	81.0%	19.0%	100.0%				
	Suburban	F	36	24	60					
		%	60.0%	40.0%	100.0%					
	Rural	F	14	2	16					
		%	87.5%	12.5%	100.0%					
6. Parity	Primipara	F	86	28	114	2.166	0.339			
		%	75.4%	24.6%	100.0%					
	Multipara	F	60	22	82					
		%	73.2%	26.8%	100.0%					
	Grand multipara	F	6	0	6					
		%	100.0%	0.0%	100.0%					
7. Place of delivery	Home	F	16	10	26	3.02	0.221			
		%	61.5%	38.5%	100.0%					

	Public Hospital	F	76	22	98		
		%	77.6%	22.4%	100.0%		
	Private Hospital	F	60	18	78		
		%	76.9%	23.1%	100.0%		
8. Type of delivery	NVD	F	76	26	102	0.06	0.467
		%	74.5%	25.5%	100.0%		
	C/S	F	76	24	100		
		%	76.0%	24.0%	100.0%		
Total		F	152	50	202		
		%	75.2%	24.8%	100.0%		

Table4 Association between some question of Practice Regarding cord care of newborn Baby and Occupation of mothers

			Occupation of mothers			Total	Chi-Square	p-value
			Housewife	Employee	Worker			
1. cleaning of umbilical cord stump of baby	Yes	F	104	44	32	180	0.441	0.802
		%	57.8%	24.4%	17.8%			
	No	F	14	4	4	22		
		%	63.6%	18.2%	18.2%			
2. Frequency cord cleaning	once a day	F	40	8	10	58	15.299	0.017
		%	69.0%	13.8%	17.2%			
	Twice a day	F	12	14	10	36		
		%	33.3%	38.9%	27.8%			
	After bathing the baby	F	54	18	12	84		
		%	64.3%	21.4%	14.3%			
	After each dipper change	F	12	8	4	24		
		%	50.0%	33.3%	16.7%			
3. Washing hands before and after cord care	Yes always	F	48	32	22	102	11.695	0.021
		%	47.1%	31.4%	21.6%			
	Yes sometimes	F	54	12	12	78		
		%	69.2%	15.4%	15.4%			
	No, not at all	F	16	4	2	22		
		%	72.7%	18.2%	9.1%			
Total		F	118	48	36	202		
		%	58.4%	23.8%	17.8%		100.0%	

Table5 Association between some question of Practice Regarding cord care of newborn Baby and place of delivery

Items			Place of delivery			Total	Chi-Square	p-value
			Home	Public Hospital	Private Hospital			
1. Cleaning of umbilical cord stump of baby	Yes	F	24	88	68	180	0.621	0.733
		%	13.3%	48.9%	37.8%	100.0%		
	No	F	2	10	10	22		
		%	9.1%	45.5%	45.5%	100.0%		
2. Materials used for cleaning	Hot Water	F	10	48	24	82	30.035	0.001
		%	12.2%	58.5%	29.3%	100.0%		
	Cotton wool with methylated spirit	F	8	20	44	72		
		%	11.1%	27.8%	61.1%	100.0%		
	Salt solution	F	2	8	6	16		
		%	12.5%	50.0%	37.5%	100.0%		
	Herbal Preparation	F	4	10	2	16		
		%	25.0%	62.5%	12.5%	100.0%		
	Other	F	2	12	2	16		
		%	12.5%	75.0%	12.5%	100.0%		
3. Washing hands before and after cord care	Yes always	F	10	44	48	102	10.645	0.031
		%	9.8%	43.1%	47.1%	100.0%		
	Yes sometimes	F	14	38	26	78		
		%	17.9%	48.7%	33.3%	100.0%		
	No, not at all	F	2	16	4	22		
		%	9.1%	72.7%	18.2%	100.0%		
Total		F	26	98	78	202		
		%	12.9%	48.5%	38.6%	100.0%		